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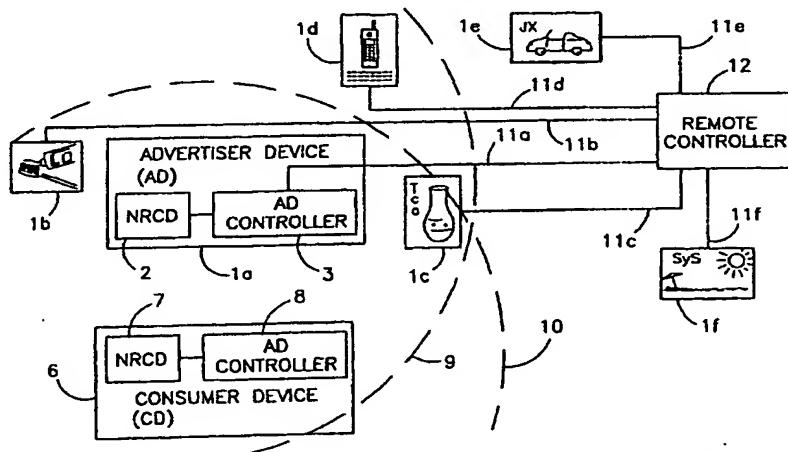
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(54) Title: ADVERTISING SYSTEM USING RADIO COMMUNICATION BETWEEN ADVERTISER AND CONSUMER



WO 02/17285 A1



(57) Abstract: Advertisement system and method of advertising by using one or more advertiser devices (1), which each corresponds to an advertisement which is perceptible by a user of a consumer device (6). The advertiser device (1a) and the consumer device (6) are equipped with a nearby radio control device (2, 7), such as based on Bluetooth technology, and a controller (3, 8) connected thereto. Upon coming into each others range (9, 10) the radio devices (2, 7) establish a communication path through which a user of the consumer device (6) is enabled to fetch an advertisement identification and additional information related to the advertisement. The user may communicate with the advertiser device (1a) to leave personal information, such as an address, to be contacted later by the advertiser. He may also fetch data, such as an URL, by which he can contact the advertiser later.

## ADVERTISING SYSTEM USING RADIO COMMUNICATION BETWEEN ADVERTISER AND CONSUMER

5 The invention relates to an advertisement system and method of advertising using nearby radio communication between advertiser and consumer devices.

In particular, the nearby radio communication is established by the use of Bluetooth (trademark of Telefonaktiebolaget LM Ericsson, Sweden) technology. For details about Bluetooth reference 10 is made to <http://www.bluetooth.com>.

Today, any person travelling through areas with high traveller throughput will be bombarded by many advertisements. Examples are on escalators in the underground, on a moving walkway in an airport, etc.

15 Many of these advertisements today attempt to get across their message in an attractive manner and provide additional details for the consumer to later remember or act upon. One such example is the inclusion on the billboard of a world wide web address.

20 Many travellers however end up with spare minutes sitting waiting for trains/plains etc., and it would be beneficial to the advertising companies if they could catch the potential customers during this time.

25 From the consumer view point, the majority of humans are just that, humans. Humans are well known as having memory failures, and quite often totally forget about advertisements (especially due to the number they see every day). Therefore, it occurs quite often that a consumer is often unhappy with himself because he can remember seeing an important or interesting advertisement, but he cannot remember the company or the details.

30 What is required is some system and method that ensure an interested customer to be provided with all the details of an advertisement he wants. In addition, it would be very beneficial if the advertiser was provided details of the customer who is interested.

In order for the consumer to ensure that he has all the correct details, the only methods he has presently is to enter the information on the advertisement into a data store. A data store could be anything from a filofax, to a laptop, to a personal digital 5 assistant (PDA).

Of course entering data into a data store requires effort, and quite often the traveller is busy or has many items to carry. At least entering data is troublesome.

Advertisers must use some of the valuable advertising space to 10 present visually the contact details that could be put to better usage catching the eye of the consumer.

Humans are fallible, their memory fails, they are lazy, they get annoyed. Most often or not, the consumer fails to note down the information that he is interested in.

15 More and more individuals today are equipping themselves with mobile phones. At the same time, the mobile phones are becoming more and more feature rich and versatile. New technologies such as Wireless Application Protocol (WAP) and Bluetooth are being introduced to make mobile phones more central to a human beings daily 20 existence.

As such, it is expected that the number of mobile phone users will increase still significantly over the next few years.

It is an object of the invention to extend the possibilities 25 of use of the type of hardware mentioned above for presenting advertising information and advertisement related information to consumers at will by the consumers.

This object is obtained by the advertisement system according to claim 1.

Said object is obtained also by the method of advertising 30 according to claim 6.

The system and method according to the invention allow a consumer to obtain and display at will with his mobile consumer device details of an advertisement, for example shown on a billboard as an advertiser device, and information related to the advertisement 35 which is not necessarily shown by the advertisement or otherwise contained in the advertiser device itself. The consumer also has the possibility to communicate personal data, such as name, postal address and e-mail address and telephone number, with a request to

the advertiser to contact him or to provide additional information to the address mentioned by him.

Other features and advantages of the invention will be apparent from the description below with reference to the enclosed 5 drawing, which shows schematically an advertisement system according to the invention in which the method of advertising according to the invention is applied.

The system shown in the drawing comprises several advertiser devices, such as billboards, 1a to 1f. Advertiser devices 1b to 1f 10 show different pictures on it as examples of respective advertisements.

The advertiser devices 1a-1f may have different shapes and dimensions but, as shown for advertiser device 1a, are all equipped with a nearby radio communication device (in the drawing: NRCD) 2, 15 and, connected thereto, an advertiser device (AD) controller 3.

The advertisement system also comprises one or more consumer devices (CD) 6, which contains a nearby radio communication device (NRCD) 7 and, connected thereto, a consumer device (CD) controller 8.

The consumer device 6 is a device which is mobile with respect 20 to the advertiser devices 1. The consumer device 6 can be of any type, such as a mobile phone or a vehicle.

The nearby radio communication devices 2, 7 are dedicated to the exchange of information related to an advertisement shown by or 25 associated with the corresponding advertiser device 1a. Presently, Bluetooth (trademark owned by Telefonaktiebolaget LM Ericsson, Sweden) chips can be used for each of the nearby radio communication devices 2, 7 of the system according to the invention. Bluetooth refers to a technology which is adopted by more than 1600 companies. It is estimated that by 2002 more than 100 million mobile phones, 30 computers and other types of electronic equipment will incorporate this technology. Equipment equipped with Bluetooth technology, when enabled, automatically searches for other Bluetooth-compliant equipment. Because of small radio signal strengths their effective range will be just about 10 m. In the drawing the nearby radio 35 communication devices 2, 7 of the advertisement device 1a and the consumer device 6 have ranges 9, 10 respectively. On contact between two of such nearby radio communication devices 2, 7, information is exchanged, which allows these devices to determine whether or not to

WO 02/17285

establish a connection. At this first encounter, the Bluetooth devices 2, 7 transmit a personal identification number (PIN). After that, no further identification process is necessary. Up to eight devices can operate at the same time in a Bluetooth cell. Moreover, 5 each Bluetooth device can be active in several cells at the same time. Although any type of equipment may incorporate Bluetooth technology, communication between them is conditional dependent on the type of equipment. That is, devices equipped with Bluetooth technology must have matching profiles, for example relating to 10 communication with computers, cameras and fixed-line interfaces. A profile is essentially a data protocol which sits on top of the Bluetooth protocol.

With the system according to the invention a Bluetooth profile for the nearby radio communication devices 2, 7 preferably supports 15 at least the following roles:

1. acting as a consumer (built into devices such as a mobile terminal 6 or screen phone);
2. acting as an advertiser (built into devices such as a billboard or digital TV e.g. devices 1a to 1f).

20 Preferably, the profile supports one or more of the following transactions:

1. request for advertisement identity (consumer to advertiser);
2. submission of personal (business card) information (consumer to advertiser);
3. request for immediate contact by the advertised company to 25 details on the personal information (consumer to advertiser);
4. request for standard package of advertisement content information (consumer to advertiser);
5. request for URL fetch (consumer to advertiser).

30 Upon coming into range of each other the nearby radio communication devices 2, 7 exchange identification information according to a standard (Bluetooth) communication protocol. Upon establishing a communication between the nearby radio communication devices 2, 7 the user of consumer device 6 may operate the consumer 35 device 6 to interrogate the advertiser device 1a for an advertisement identification which the advertiser device 1a contains in its controller 3 and which refers to its corresponding advertisement. When having fetched such advertisement identification the user may

operate the consumer device 6 to demand additional information relating to the advertisement from the advertiser device 1a.

5 Data received by the consumer device 6 from the advertiser device 1a may be presented in different ways to the user of the consumer device 6, such as visually and audibly. In particular the additional data received from the advertiser device 1a has a standardised format, such as WML or HTML, such that it can be viewed by using a browser, such as with a WAP capable phone. In this regard, dependent on the data demanded by the user of the consumer device 6 10 the advertiser device 1a establishes a communication path 11a to a remote controller 12. The remote controller 12 can be anything from a nearby computer or a remote computer serving one to numerous advertiser devices 1. The communication paths 11a to 11f can be of any type and length, from a few meters of fixed wiring to a public or 15 private global communication network, such as Internet.

Having such possibilities of communication the user of the consumer device 6 has many ways to leave his personal data for personal contact later and to fetch small to huge amounts of data relating to the advertisement or advertiser from the advertiser 20 device 1a directly or through the advertiser device 1a from any remote computer, such as remote controller 12 or an Internet server hosting web pages of the advertiser. In case the nearby radio communication device 7 loses contact with the nearby radio communication device 2 of the advertiser device 1a the user of 25 consumer device 6 may operate his device, if being a WAP capable phone, to establish a communication path directly with such Internet server. In that case the data retrieved from the advertiser device 1a by the consumer device 6 should have contained an URL relating to the advertisement.

30 It may well happen that the nearby radio communication device 7 of a consumer device 6 is within range with several nearby radio control devices 2 of different advertiser devices 1 at the same time, such as advertising devices 1a, 1b and 1c as shown. Preferably the advertisement identifications from those different advertiser devices 35 1 are displayed in a specific order by the consumer device 6. This will enable the user of the consumer device 6 to quickly scan the basic information provided by those advertisement identifications for the one he is most interested in. One ordering type may be by

category of advertisement, to which extent the advertisement identification must comprise a category identification. The different advertisement identifications may also be displayed in an order which is dependent from the strength of a radio signal by which the 5 respective advertisement identifications were received. This requires a radio signal detection means in the consumer device 6 and a labelling means for labelling the different radio signals dependent on their strengths.

The system and method according to the invention benefits both 10 the advertiser and consumer.

The consumer may fetch additional information from an advertisement which caught his eye without the risk of forgetting details of the advertisement for obtaining additional information later. The consumer is completely free in getting the additional 15 information about an advertisement.

Advantages for the advertiser are:

- a) reaching interested consumers directly on their will, creating a greater impact of the advertisement;
- b) immediate measurable response based on number of times 20 information about the advertisement was demanded by consumers;
- c) increased impact on otherwise less interested consumers if being waiting travellers "playing" with their mobile phones;
- d) greater impact due to being able to initiate contact with consumers who showed interest;
- 25 e) an advertising campaign can be adapted geographically and for specific groups of consumers based on measurement results from the above points a)-d).

In addition, a company who is renting billboards to actual 30 advertisers may host the remote controller 12 himself to make measurements for the advertisers and for himself also to set the price for renting the advertiser devices 1 dependent on the measurement results.

C L A I M S

1. Advertisement system, comprising an advertiser device (1a) and a mobile consumer device (6), which both have a nearby radio communication device (2, 7) and a respective device controller (3, 8) connected to the communication device (2, 7), the advertiser device controller (3) containing an identification of an advertisement which is perceptible by a user of the consumer device (6), the controllers (3, 8) containing means for exchanging demands and demanded data between them on the basis of an advertising protocol on top of a nearby radio communication protocol.  
5
2. Advertisement system according to claim 1, characterized in that the advertiser device controller (3) contains a memory having stored therein on advance the demanded data.  
15
3. Advertisement system according to claim 1, characterized in that the advertiser device controller (3) is connected to a remote controller (12) and the advertiser device controller (3) provides a communication path (11) between the consumer device controller (7) and the remote controller (12).  
20
4. Advertisement system according to claim 3, characterized in that the advertiser device controller (3) provides the communication path (11) dependent on the demanded data.  
25
5. Advertisement system according to claim 3 or 4, characterized in that the remote controller (12) is a common remote controller for a plurality of advertiser devices (1).  
30
6. Method of advertising comprising:
  - providing on an advertisement device (1a) an advertisement which is perceptible by a consumer;
  - allocating an advertisement identification to the advertisement;
  - storing the advertisement identification in the advertiser device (1a);

- providing a nearby radio communication path between the advertiser device (1a) and a consumer device (6);
- upon establishing the nearby radio communication path allowing a user of the consumer device to interrogate the advertiser device 5 (1a) for the advertisement identification through the nearby radio communication path;
- upon receipt of the advertisement identification by the consumer device (6) allowing the user to exchange data between the consumer device and the advertisement device.

10

7. Method of advertising according to claim 1, characterized in that:

- in the consumer device, while a plurality of nearby radio communication paths with different advertiser devices (1) are established the respective different advertisement identifications are presented to the consumer in a predetermined order;
- upon selection by the consumer of an advertisement identification from several presented advertisement identifications the exchange of data is with the advertiser device (1a) of the selected advertisement identification.

20

8. Method of advertising according to claim 7, characterized in that:

- the advertisement identification is provided with an advertisement category identification;
- the advertisement identification presentation order is by advertisement category identification.

25

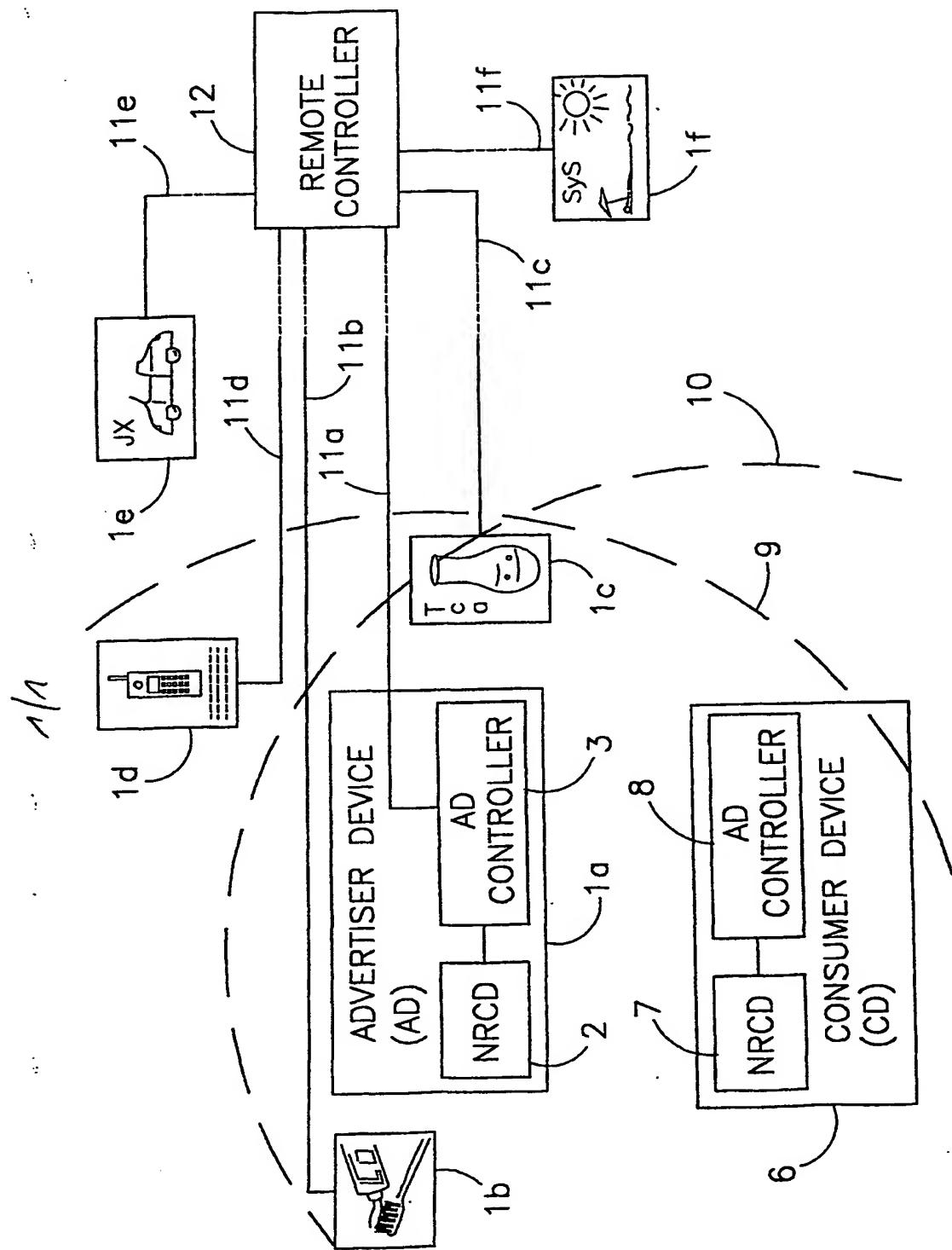
9. Method of advertising according to claim 7, characterized in that:

- for each established nearby radio communication path a strength of reception is measured;
- the advertisement identification presentation order is by strength of reception of the nearby radio communication paths.

30

10. Method of advertising according to one of the claims 6 to 9, characterized in that dependent on the type of data to be exchanged to and from the consumer device (6) the advertisement device (1a)

operates as an intermediate communication device between the consumer device (6) and a remote controller (12).



SUBSTITUTE SHEET (RULE 26)

## INTERNATIONAL SEARCH REPORT

Int'l Application No  
PCT/EP 00/08357A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G09F19/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G09F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DATABASE WPI Derwent Publications Ltd., London, GB; AN 2000-681753 XP002162746 & JP 2000 224658 A (NIPPON DENKI TSUSHIN SYSTEM KK), 11 August 2000 (2000-08-11) abstract	1,6
A	WO 00 02389 A (MCALLAN ROBERT E) 13 January 2000 (2000-01-13)	2-4
A	the whole document	1,6
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 04, 31 August 2000 (2000-08-31) & JP 2000 022811 A (NEC COMMUN SYST LTD), 21 January 2000 (2000-01-21) abstract	2-4,7,10
		1

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)		Publication date
JP 2000224658 A	11-08-2000	NONE		
WO 0002389 A	13-01-2000	AU	4828599 A	24-01-2000
JP 2000022811 A	21-01-2000	NONE		